



COLORADO SPRINGS,
COLORADO

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Pikes Peak Radio Amateur Association, Inc.
P. O. Box 16521
Colorado Springs, Colorado 80935

MARCH 1996

MEMBER 95



Amateur Radio News Service



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Ø BEAT



Pikes Peak Radio Amateur Association Officers and Directors

President—	Rob Roller	WB7WHT	4846 Herndon Circle	Colorado Springs	80920	282-0204
Vice-President—	Doug Moloney	WBØMHP	3817 Vaquero Circle S.	Colorado Springs	80918	590-2757
Secretary—	Warren Hickey	WØYNE	12895 Tia Lane	Colorado Springs	80908	495-0471
Treasurer—	Mary Salas	KBØSIP	11710 Tracy Lane	Peyton	80831	749-0244
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Board Member—	Ron Deutsch	NKØP	4305 Ridgeline Drive	Colorado Springs	80918	593-8352
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Board Member—	Harry Russell	NØSFP	11710 Tracy Lane	Peyton	80831	749-0244

The Ø-BEAT is published monthly in the interest of the members of the Pikes Peak Radio Amateur Association, Inc., PO Box 16521, Colorado Springs, Colorado 80935. For membership and subscription information see the last page of this publication. The Pikes Peak Radio Amateur Association meets monthly on the second Wednesday of each month at the Disabled American Veterans Hall, Chapter 26, 6880 Palmer Park Blvd. at 7 PM.

Check out the PPRAA page on the World Wide Web! Point your browser to: <http://rainbow.rndi.com/~mugele/ppraa/>

Deadline for submission of articles or advertisements is the 20th of each month. Submissions are accepted in any form. Articles should be sent directly to the Ø-BEAT Editor. Permission is granted to reprint articles provided credit is given to both the author and this publication.

Monthly advertising rates: Full page, \$48; Half page, \$24; Quarter page, \$12; Business card, \$6. These rates are billed quarterly. Send your advertisement requests and payments to: PPRAA, PO Box 16521, Colorado Springs, Colorado 80935.

License Exams

License examinations sponsored by the PPRAA are held on the 2nd Saturday of February, April, June, August, October, and December.

Testing takes place at 9 A.M. at:

Denver Technical College
225 South Union
Colorado Springs

Everyone is seated on a walk-in basis. Those wishing to take an exam should bring the following items:

1. \$6.05 (preferably a check/money order made out to ARRL/VEC) for any exam other than element 1A or 2.
2. Picture identification.
3. A copy of your current amateur radio license, and/or a copy of any examination credit you have, as well as the signed original. **We keep the copies.**
4. A pen, pencils, and a calculator if you need one.

Questions? Call Erik Mugele, KGØXE at 596-5345. Please do not call Denver Technical College.

Committee Chairpersons/Contacts

Activity	Doug Moloney	WBØMHP	590-2757
Auditing			
Historian	Al Craig	N2IWZ	594-9288
Interference	Bill Petty	NØNJX	591-2116
Membership	Les Borst	KCØNC	634-3995
Programs	Doug Moloney	WBØMHP	590-2757
Publicity	Aaron Pelouze	KDØFLM	282-9715
Public Service	Mike Stansberry	KØTER	636-1290
Swapfest	Harvey Hunter	WA3EIB	597-8964
Technical Instruction	Al Bailey	ADØZ	597-8514
Trailer Custodian	Harry Russell	NØSFP	749-0244
VE Testing	Erik Mugele	KGØXE	596-5345
Ø-Beat Editor	Jeff Boyes	NØJLH	633-5650
ARES Liaison	Mike Stansberry	KØTER	636-1290
CCARC Liaison	Cory Nelson	KBØNMH	528-6696
RACES Liaison			

Reminder — General Membership Meeting

The next General Membership Meeting of the Pikes Peak Radio Amateur Association will be on the second Wednesday of this month at the Disabled American Veterans Hall, 6880 Palmer Park Blvd. The meeting will start at 7 PM.

Zero Beat

Minutes from the February 1996 General Membership Meeting

The general membership meeting was opened at 7:00 p.m. by the President Rob Roller, WB7WHT, upon determining a quorum of the membership was present.

The minutes of the January 10, 1995 meeting, as published in the Ø-Beat, were approved as written with the correction of Carlos, KBØREI was WBØREI.

Committee Reports:

Public Service: Mike Stansberry, KØTER, briefed on two public service events, the Walk for Children on April 20 and Walk America on April 27. Mike circulated sign up sheets.

Field Day. Jeff, NØWPA, briefed that as of tonight we will not be using the Air Force Academy Campgrounds. Jeff is looking for other areas. There is a possibility that an area on Fort Carson may be available.

Programs: Jeff announced that tonight's club meeting program will be on Direction Finding Antennas.

Education: Rob asked for volunteer Elmers to help out at the next license class. Those interested should contact Frank McNally. They will be beginning Feb 19.

Swapfest: Harvey, WA3EIB, the 1996 Swapfest Chairman briefed the status. Harv is looking for a few good people to help this year. The tickets are being printed and the prizes were on display.

Old Business:

If your ARRL membership is about to expire, please renew through the PPRAA. We are giving a credit for each renewal.

New Business:

Hal Bergeson, WØMXY, announced the annual meeting of

the Pikes Peak FM Association will be held Mar 10, 1996 at 2:00 p.m. at the UCCS Engineering building. PPFMA provides the repeater infrastructure in the greater Pike Peak region that supports all amateurs.

The "1995 Hammy of the Year Award" was presented by Jeff, NØWPA, to Ron, NKØP for all the work he has done for amateur radio. Our hats off to Ron.

Rob presented this months Hammy to Liddy on behalf of Erik, KGØXE. Congratulations Liddy.

Next Board meeting will be held at Jeff Ryans home on Monday, Feb 19th at 7:00 p.m. If you intend to attend please let Jeff know.

The meeting was adjourned.

Respectfully submitted by Warren, WØYNE, Secretary

PPRAA Swapfest Update By Harvey Hunter, WA3EIB

We have had a difficult time this year getting the preliminary requirements completed for the 1996 PPRAA Swapfest, however, we now have the date, location, state raffle license, tickets on order at the printers, main prizes ordered and delivered, and tables/chairs on order. This is only the beginning! Now, the REAL WORK can get started. This second phase of planning such an event requires Club participation (YOU.) The MOST critical stage of having a successful Swapfest lies in the best effort possible by ALL. Ticket sales, advertisement, Table Sales, Sign making, Publicity, Food Vendor arrangements,

Seminar Scheduling, Club Table participants, Money handlers, Volunteer Examiners, Vendor Security, EMT's, Prize Table Helpers, MC, and the list goes on. I know OUR club participates in numerous Public Service Events throughout out the year, but, I feel the most vital activity of them ALL is the Swapfest. It provides the only key source of funding for education and also gives OUR club the best possible impact on the entire ham community. I've been your Swapfest chairmen for the past 3 years and Hamfesting is my passion. A personal desire is that we are successful at our event EVERY YEAR. I would some day love to see OUR Club be nationally known for having the best hamfest in the West.

By now you are probably saying, "Dream on!" It can happen if we ALL have vision. I've been an active ham for over 30 years and have participated in many Clubs. I've discovered the one thing that separates the average club from the GREAT club. It's Goals, and Participation. Let's all do something for Ourselves and Our Club by launching this years Swapfest as the best Hamfest ever. Call me, tell me what you would like to do.

The Swapfest will be July 20th (Saturday) at Liberty High School and the main prizes are an Icom IC-706 All Band, All Mode Transceiver, an Icom IC-T22A 2M Transceiver, and a Kantronics KPC-3 TNC. There will be many many more door prizes and fun for everyone.

LET'S DO IT!

Pikes Peak Radio Amateur Association

Friendship Award By Rick Brown, KDØSU

This award is designed for all of the newcomers to Ham Radio. It was started by the ARRL in November 1993 to encourage friendly contacts between radio amateurs. Since the PPRAA is an ARRL affiliated club we can issue this award to those ARRL members who earn it.

The ARRL Friendship Award is available to any ARRL member who submits log extracts that show two-way communications with 26 stations whose call signs end with each of the 26 letters of the alphabet. Contacts may be made on any authorized Ham frequency using any authorized mode. Contacts made through repeaters or satellites are both permitted and encouraged.

This is not an award that requires a super station to complete. It is any easy way to get that first award to go on the shack wall. Also, if you run out of things to talk about during those first contacts on the air it is an easy way to keep a conversation going. I gave out several of the awards the first few months after it was available.

For you new folks who have not heard about it, I would be happy to send you a set of rules and a special log form that makes it easy to keep track of your contacts. Once you have earned the award you cannot earn it again, but that does not keep you from helping others to earn the award.

Give me a call at 531-9423 and I will be happy to give you more information.



Dits and Bits

For Sale:
Amateur Antenna Rotor.
10M Mobile Whip.

Frank NØIEM 596-7980

For Sale:

Alinco DJ-580T Dual Band HT
Alinco DR-112T 2 Meter VHF Xcvr
Alpha Delta DX-A 1/4 Wave 160-40M sloper (NEW IN PKG)
Atlas 300 W Oil Filled Dummy Load
B&W 590G Grounding Ant Switch
Icom IC-229H 2 Meter VHF Xcvr
Icom SM-8 Dual Radio Desk Mic
MFJ-949E Antenna Tuner
Palomar RX-100 Ant Noise Bridge
Realistic PRO2026 Mobile Scanner
Radio Shack DSP40 Digital Signal Processor
Van Gordon G5RV Multi-band antenna (NEW IN PKG)
Viva 2442ef 2400 baud FAX/modem
Tandy Model 102 Portable computer w/case, AC Adapter, modem cable

----- PACKAGE ONLY -----

Kenwood TS-50S Mobile HF Xcvr
Kenwood AT-50 Auto Ant Tuner
Kenwood PG-4M AT-50 Extension Cable

----- PACKAGE ONLY -----

Kenwood TM-732A Dual Band VHF/UHF Transceiver
Kenwood PG-4K TM-732A 13 foot remote cable
Kenwood TSU-7 CTCSS decoder module

Doug, 598-1441 after 6 pm only.

Help -- Help Rick Brown, KDØSU

Over the last three years Denver Technical College (DTC) has allowed our club to hold the Volunteer Examiner Test Sessions in their classrooms. This has been a great help to the Volunteer Examiners and we really appreciate having a location that is readily available to us. Also, the school has not charged us for the use of the facilities, which is something the people who run other locations wanted to do.

The school is always looking for people to serve on their Advisory Board for Electronic Telecommunication Technology. This Advisory Board consists of people from the electronics and telecommunication industry. The board meets on a quarterly basis to advise the school about issues in the industry, such as rapidly growing fields, areas that need to be taught, etc.

I thought there may be people in the electronics industry in our club who would be willing to give up a little of their time (read -- volunteer) to be a part of this Advisory Board. While there is certainly no pay for doing this, there are some benefits I would be happy to explain to anyone who is interested. If you can't do it, but know someone in your company who might be interested please feel free to have them contact me. My work phone is 632-5566, ext 128. If I am not at my desk this will also get my voice mail.

Zero Beat

Product Review: Icom 706 HF-VHF Transceiver By Ron Deutsch, NKØP

I purchased my IC-706 in October 1995 from HRO in Denver for \$1299.95. Although primarily designed for mobile use I wanted a radio to replace my HF, 6mtr and 2mtr all mode transceivers in my home shack. The IC-706 has most of the capabilities my much larger radios had and allows me the option to take it mobile with a very minimum of trouble.

The unit itself is very small (6.5 x 2.25 x 7.875) and weighs in at just 5.5 lbs. The front panel detaches to allow remote use much like the mobile VHF radios. I have not used it with the front detached so I can't comment on the operation in that mode.

When I first unpacked it and hooked it up to 12 volts I was struck by the lack of front panel controls. Virtually every function is software controlled. So I had to break out the instruction manual before I could even listen around the bands. The manual is very well done and after a few hours of trial and error I was able to use most of the functions without referring back to the manual.

On HF I thought the unit received very well. It comes without and narrow filters and unfortunately has only one space for and optional filter. I used the Radio Shack DSP audio filter and it did nicely while I decide which filters to order for the rig. It put out full rated 100 watts on all bands and signal reports were all good. The CW reception seems good but you definitely need a narrow filter. It took some looking to figure out how to hook up my paddles. (A second level menu item that only appears when you are in the CW

mode) I have not made any CW contacts with it yet...oh well...good intentions!

On 6mtrs it put out 90 watts and seems to receive as good as my Yaesu 726R. I have not really put through the paces on 6mtrs yet.

On 2mtrs the unit performed very well. I checked in to several SWOT nets and was able to here all the stations from Kansas and Wyoming and New Mexico. It drove my amplifier to full output and signals reports were good.

2mtr FM worked well with the local repeaters and the unit saved the sub audible tones in memory.

The unit is just about useless for receiving outside the ham bands on VHF. I could just barely here the weather on 162mhz. (This was my only major disappointment)

The built in preamp was not very useful in my opinion. It seemed to bring up the noise more than the signals. The built in band scope is also pretty useless. It mutes the volume when it is on so its only use would be to spot a signal on VHF or maybe to find a loud interfering station on HF.

This radio is definitely not easy to use and I would consider that fact before you buy one. The multiple levels of menus and multi function buttons got me in to situation I could not get out of quickly.

But, considering the cost of and HF rig with these features and a 100 watt six meter all mode and a all mode 2mtr radio.....the IC706 is a bargain and lives up to its advertising. If you have a small space for a ham shack and want all the bands from 160 through 2mtrs...this radio was built for you.

Welcome New Members

Rickey Chatelain	NØZUX	683-2883
Jim McConnell	KBØSCM	688-8075
Phil Pearsall	KC5LXC	531-5319
Steve Renfrow	KBØRAE	546-1223
John Roberts	KBØVGX	391-1393

Silent Key

Our club and the entire Ham community lost a member who had held a license for 47 years. George Beauchamp Sr. past away at his home on February 21, 1996. He was buried Tuesday, February 27, 1996 at Fort Logan National Cemetery in Denver.

Mr. Beauchamp had lived in Colorado Springs for the past 30 years. He was very active in many local organizations including the Pikes Peak Radio Amateur Association.

Memorial contributions may be made to: Pikes Peak Hospice, 3630 Sinton Road, Suite 302; Colorado Springs, CO 80907 or to St. Mary's High School Building Fund, 2501 East Yampa Street; Colorado Springs, CO 80909.

Editor's Notes

As some of you know, I have been researching the feasibility of using bulk mailing to save the PPRAA some of the expense of mailing the O-Beat. Basically, it boils down to this: the more work you do, the more money you save. I'll talk more about this at the next General Meeting. See you there!

Thanks, and 73,
Jeff, NØJLH

Pikes Peak Radio Amateur Association

Words from the President:

WB7 Work Has Taken ... By Rob Roller, WB7WHT

its toll on my amateur radio time this month. So has family. And I still have a few more months of school left. But I still manage to find a few minutes here and there to tune around the bands and talk, listen or think amateur radio stuff. I dropped by the amateur radio classes on February 19 at the Tesla Society and found about twenty people eager to learn about amateur radio. Frank McNally and Al Bailey are going to have their hands full this time, though, because several of the attendees are physically challenged in some way, most notably visually challenged. But they've come through in the past. Thanks to all others that are helping with these classes.

There are quite a few other things going on. A couple of members are out scouting for a good Field Day site for this June. We hope to have a definite site soon. Also the hamfest crisis has settled down a bit but Harv's still looking for a few good people. On the air, if you tried to get on 20m CW a couple of weekends ago you heard a lot of "CQ TEST" as the ARRL DX CW contest got under way. It was great if you're into CW, not so great if you not. I listened but most of it was way too fast for me. Maybe next year.

Coming up, you'll again have the opportunity to speak with amateurs aboard the Space Shuttle STS-76 scheduled to lift off March 21 and end its mission on March 30. They have a scheduled radio contact with

UCCS. That's good news since that last time UCCS tried to contact astronaut Ron Sega, KC5ETH things didn't work out. Ron is scheduled to be on this mission along with N5RAX and KC5CKM. The orbit inclination is fairly high (51 degrees) so it shouldn't be a problem to work it if you can figure out when they'll be on the air. Aim those antenna high this month.

March is sure a "space" month since our PPRAA program this month will be on the AMSAT Phase III satellite. Bdale Garbee will be making the presentation this time. Come on by on March 13 for what looks like a good meeting.

See you then.

Home Brew Results:

Everyone went home sober, too! By Doug Moloney, WBØMHP

January's club meeting program was our annual home-brew night with four new categories this year: professional kit, non-professional kit, professional non-kit and non-professional non-kit.

Winning first place in the non-professional non-kit was Harry Gray, WAØTHB with his 1914 vintage buzzer type transmitter. This type of transmitter was also known as a "spark-gap" transmitter and was used to call back WW1 fighter pilots. As close as we were to the Colorado Springs Airport, I'm sure glad they don't use 200 kHz receivers on 747's -- or do they????

Winning second place in the non-professional non-kit was a code oscillator by Scott Seymour, KBØSLG. Scott admits that once he heard sound he didn't want to put it in a box!

The professional non-kit category, in which four projects were entered, posed the most challenge for the judges. The technology span was roughly 40 years from the RTTY converter to the hardware/software transceiver control interface for Windows. Winning first place for his hardware/software transceiver control interface was Dave Steele, KFØQW. Second place went to Bill Petty, NØNJX for his Morse code reader. Also entered were two RTTY converter boards and hand machined paddles by Greg Tarcza, WA2OOD.

The professional kit and non-professional kit categories each had one entrant. Doug Borter, KBØSHR for his 2-meter copper-pipe J-pole antenna and Scott Seymour, KBØSLG for his MFJ receiver kit.

Prizes were awarded to each first and second place winner as well as the un-contested entrants. Hopefully, the parts stores are now a little wealthier due to the prize money!

Thanks to all who entered their projects so the members could enjoy seeing what has been "home-brewed!" Also I want to thank the board of directors for choosing the finalists. I especially want to thank Doug Borter, KBØSHR for donating his prize winnings back to the club.

Zero Beat

Upcoming Swapfests

Be sure to mark those calendars!

April 6th

Longmont ARC - LARCFest
Boulder County Fairgrounds
Call: Jim, NØXDA, 303-678-9748

April 14th

Aurora Repeater Association
(ARA)
Adams County Fairgrounds
Call Judy, WDØHNP, 303-450-6910 or Janice, KA7TYU, 303-699-1944.

July 20th

Pikes Peak Radio Amateur
Association (PPRAA)
Liberty High School, Colorado
Springs
Call Harvey, WA3EIB, 719-597-8964
Prizes include an IC-706, an IC-22A, and a KPC-3.



OM/YL LUNCH BUNCH

The next Lunch Bunch meeting will be March 21st at the HomeTown Buffet at Noon. HomeTown Buffet is located in The Shops At The Bluffs, 3650 Austin Bluffs Parkway.

We have a fun time at our get-togethers! You buy your own meal...Relax...Enjoy the company of some good friends, and have a great time! See ya there!

73,
Rosie Calaway, WAØMNL
471-9965

Fox Hunt!

Join in the fun the second Sunday of each month at 4:00 p.m. two miles east of Castle Rock. Meet at the Lutheran Church parking lot 1.5 miles south of Hwy. 86 on Ridge Road. Talk-in: 147.555 MHz simplex.

Letters to the Editor

January 24, 1996

As a member of the PPRAA, I would like to convey special thanks...to all Amateur Radio operators who assisted me with contest QSO points this past weekend during the 1996 ARRL January VHF Sweepstakes contest on FM simplex 2M, 1.25M, 70cm, and 23cm. I would like to encourage future involvement of all of us during contests. It is lots of fun! You all definitely helped out my score!

Thank you and let us do it again, the next contest!

73s.

signed,

Ken Knight (NØYGM)

El Paso County Roundtable's

VHF - Tuesday evenings at 7:30 PM local on 146.58 MHz.

HF - Sunday evenings at 7:30 PM local on 3990.5 kHz.

Everyone is invited to check in.

This space could have (should have?) been yours!!



Solar Power question
From: Steven Wilson, via the Internet

I am interested in running my setup on solar power. I need 20 amps at 12vdc. My question is how does one figure out the size of the solar panel to be certain the batteries are always charged? A typical panel might supply 4.5 amps at 12vdc during daylight assuming 10 hrs (?) I am looking for an equation. Thanks.

Answer #1
From: Smith, David P., KE6BGH

It is difficult to state a simple formula for this due to the variables. Rather than try to address each of these, perhaps I can give you a general, 'thumbnail' guideline gained through personal experience and our company's literature. (@songs.sce.com=@ San Onofre Nuclear Generating Station. Southern California Edison. com) Using standard lead acid batteries you can generally assume about

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25% efficiency (power out/power in).

Using solar cells without a solar tracking system, that is if they are stationary and angled to face the sun at midday in two dimensions, you can generally average about 50% rated power for 10 hours per day in the "sun belt". Since you didn't mention where you are located, let me give some very general ideas about solar efficiency at more northern latitudes. As you move further north (or south) you are from the sun's track (or it moves away from you as the seasons change) you lose solar efficiency due to both the increased amount of air the solar rays have to penetrate and the shorter period of daylight. Of course, on cloudy days you can expect solar efficiency to rapidly approach zero!

Assuming your figures for solar array ratings and rig requirements, you might expect to be able to operate 16.875 minutes for each sunny day!

$((4.5 \times 10) \times .55) \times .25 / 20$

So, if you use my assumptions (and I can provide more information if you wish) you could say that the 'formula' is

$((I_c \times H) \times .55) \times .25 / I_r$

where I_c =collector output current, H =hours of sunlight, (times .55 for ballpark solar efficiency) (further, times .25 for battery efficiency), I_r =rig load current.

I hope this helped a bit. Remember these are only the working "thumbnail" penalty factors, but they are based on a fair amount of experience.

Of course, in my opinion, the best way to run a ham rig is using commercial nuclear power (preferably when I'm on overtime!).

73's de Dave, KE6BGH

Answer #2

From: Neil Fullagar, KE6NCX

I've not done this, so everything I say is just musings by the unknowing... But I analyze problems not wholly unlike this for a living, so maybe I can be of some help.

Now, we need to define some terms and refine the requirements. How "certain" do you want to be that the batteries are "always" "charged." Is this to be solar + something or solar only. (If solar only, there is no way to ensure that the batteries are always fully charged if you ever operate at night or on dark days...) I assume that your 20 amp requirement is peak load, and that you are not broadcasting (i.e., the duty cycle is less than 100%.) You have to look at the standby and receive current requirements (probably about the same) and the xmit current requirement, and at how much of the time you expect to be xmitting. Mode also matters. AM and FM will require essentially full peak power continuously during transmissions. CW and SSB require less over time. Have you allowed for lighting demand, computers, etc? Are you looking at operating 24 hours a day? Less? For how many days? Would you/could you cut back power and/or operations to conserve battery power? (If you're a contester then you could - well, maybe you could but you probably wouldn't want to - drop power and or suspend operations if you had successive days of darkness. On the other hand, if you're doing emergency operations statewide you perhaps can't function on lower power, nor call the

emergency off the cause of bad weather!)

On the supply side, you have to allow for the efficiency of the batteries (how much of the charging energy do you get back as output.) How much of the time are you going to have full sun (= full output), how much time reduced sun (= reduced output), and how much time darkness? 10 hours is pretty optimistic for winter, but might be realistic in summer. Where is this being done, and what are the prevailing weather patterns? Is it overcast a lot in summer? In winter?

Once you've answered these questions you will be much closer to knowing both the needed battery capacity and the required charging capacity.

73, Neil KE6NCX

Excerpts From Amateur Radio Newsline #965

School club provide communication during blizzard

Yet another story of ham radio bravery in the wake of the Great Blizzard of 1996. As the storm hit New England the weekend of January 6-7, the Bethel Educational Amateur Radio Society of the Bethel, Connecticut Middle School got the call to action from the City Office of Emergency Management. The students operated around the clock to provide backup communication for the town and acting as a net control station for 34 surrounding towns in the greater Fairfield County area.

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PPRAA Membership - As Of Jan 1996

<u>Call</u>	<u>Last Name</u>	<u>First Name</u>	<u>Phone</u>				
AA0TH	KAMIENSKI	JILL	687-5864	KBOUMU	AUER	JOHN	471-9747
AA0UI	PEWITT	GENE	573-4304	KBOUVD	HICKEY	T. DARRYL	495-3221
AA0ZA	HREBEK	BOB	630-1895	KBOUVF	DAVIS	TERRY	475-7635
AA0JP	MUSSELMAN	RANDALL	471-8123	KBOVGX	ROBERTS	JOHN	391-1393
AD0Z	BAILEY	ALLEN	597-8514	KB0WX	STIENMIER	RICHARD	688-1461
KDCI	SCHAARSCHMIDT	STEVE	598-3554	KB2BAJ	BELLAMY	ELEANOR	591-2378
KDCST	HANSZ	JERALD	390-4106	KB5RGW	KEELEY	SUE	683-3127
KDROL	STOCKTON	OAK	570-7782	KB7VDK	COPMANN	DARLA	840-1283
KOTER	STANSBERRY	MIKE	636-1290	KC0NC	BORST	LES	634-3995
KOUNS	ZIMMERMAN	JIM	599-3119	KC0TQ	HANSEN	HARLEY	895-0221
KOWVB	WOODRUFF	CARL	634-8372	KC5EYT	GRAY	DEBORAH	389-1627
K2LCT	PACHE	DICK	593-2631	KC5FWV	SPIEGEL	ROBERT	495-1534
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KAD0YZ	HICKEY	ARLENE		KDONB	LUND	EDWARD	495-9007
KADPXE	STREAMER	CONNIE	634-1081	KDOQE	CHILDRESS	HERB	598-2346
KADROY	BOYES	RENAY	633-5650	KDOSU	BROWN	RICK	531-9423
KADROZ	BORST	JODY	634-3995	KD6DEZ	KEANE Jr.	G.L.	670-6387
KA0TSA	JANES	DALEAN	630-1542	KD6FLM	PELOUZE	AARON	282-9715
KADWIE	SONTAG	ALFRED	591-0290	KD6MQF	VERRET	LINDA	598-2455
KA0WWT	TURNER	ALLEN	573-0208	KD6TRU	SCHWAB	JIM	591-8925
KA8ZKR	VERRET	PHILLIP	598-2455	KESLX	LEHMAN	LARK	481-4622
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